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ABSTRACT

This profile is designed as a recording sheet for monitoring an individual student's progress throughout the school year. Sixth grade assessment materials and the "Strategies for Instruction in Mathematics" suggest tasks and questions that can be used for on-going and summative assessment. Directions for use and descriptions of levels of performance are presented. (ASK)

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Mathematics

Sixth Grade Observation Profile for On-Going Assessment and End of the Year Evaluation

This profile is designed as a recording sheet for monitoring an individual student's progress throughout the school year. The *Strategies for Instruction in Mathematics* suggests tasks and questions that can be used for on-going and summative assessment.

Directions for use:

The four main mathematical goals and the specific objectives from the North Carolina *Standard Course of Study* are clustered on this profile according to "big ideas." There are six boxes for recording a student's performance level (1, 2, 3, or 4) at each grading period as some school systems have six grading periods, while others have four grading periods. Teachers will use only the boxes needed. The hexagon beside each "big idea" is for the teacher's summative evaluation and will be filled in at the end of the year.

It is suggested that teachers record an evaluation (performance level) for each objective that is taught during a particular grading period; it is not necessary to record an evaluation for objectives that have not been addressed. Student work, conversations with the student, and observations provide evidence for the evaluation of performance. Evaluations are based on the student's abilities to explain, model, and apply learning. Student work folders (or portfolios) will support the evaluation.

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

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Student Name _____ ID # _____ Teacher's Name _____ School _____ Year _____

Sixth Grade Observation Profile for On-Going Assessment and End of the Year Evaluation

Number Sense, Numeration, and Numerical Operations - Spatial Sense, Measurement, and Geometry - Patterns, Relationships, and Functions - Data, Probability, and Statistics

Descriptions of levels of Performance

Level IV (Exceeds expectations)
- consistent performance beyond grade level
- works independently
- understands advanced concepts
- applies strategies creatively
- analyzes and synthesizes
- shows confidence and initiative
- justifies and elaborates responses
- makes critical judgements
- makes applications and extensions beyond grade level; applies Level III competencies in more challenging situations

Level III (Proficient)
- **exhibits consistent performance**
- **shows conceptual understanding**
- **applies strategies in most situations**
- **responds with appropriate answer or procedure**
- **completes tasks accurately**
- **needs minimal assistance**
- **exhibits fluency and applies learning**
- **shows some flexibility in thinking**
- **works with confidence**
- **recognizes cause and effect relationships**
- **applies, models, and explains concepts**

Level II (Not yet proficient)
- exhibits inconsistent performance and misunderstandings at times
- shows some evidence of conceptual understanding
- has difficulty applying strategies or completing tasks in unfamiliar situations
- responds with appropriate answer or procedure sometimes
- requires teacher guidance frequently
- needs additional time, opportunities
- demonstrates some Level III competencies but is inconsistent

Level I (Limited performance)
- exhibits minimal performance
- shows very limited evidence of conceptual understanding and use of strategies
- responds with inappropriate answer and/or procedure frequently
- very often displays misunderstandings
- completes task appropriately and accurately infrequently
- needs assistance, guidance and modified instruction

Using number relationships

1.01 Read, write and make models of numbers including percents and exponentials.

1.02 Relate fractions, decimals, and percents.

1.03 Compare and order fractions, decimals, and percents.

1.09 Use models and pictures to relate concepts of ratio, proportion, and percent; record results.

1.10 Use models and pictures to demonstrate understanding of integers. Record results.

1.11 Compare and order integers.

Computing

1.04 Multiply and divide fractions, mixed numbers, and decimals using models and pictures; record solution.

1.05 Multiply and divide fractions, mixed numbers, and decimals.

1.06 Add and subtract fractions and mixed numbers with unlike denominators.

1.12 Use the order of operations to simplify numerical expressions with parentheses and exponents.

Solving problems

1.07 Use estimation and mental math to solve problems with fractions, decimals, and percents; explain solution.

1.08 Solve problems using prime factorization, common factors and common multiples. Explain solutions.

1.13 Translate word problems into number sentences and solve. Explain solutions.

1.14 Analyze problem situations, determine if there is sufficient information to solve the problem, identify missing or extraneous data, select appropriate strategies, and use an organized approach to solve multi-step problems; use calculators when appropriate.

2.12 Estimate solutions to problems involving geometry and measurement. Determine when estimates are sufficient for the measurement situation.

2.13 Analyze problem situations, select appropriate strategies, and use an organized approach to solve non-routine and increasingly complex problems involving geometry and measurement. Use technology as appropriate.

3.06 Identify and use patterning as a strategy to solve problems.

4.08 Use inductive and deductive reasoning to solve problems.

4.09 Analyze problem situations, use an organized approach, and select appropriate strategies and technology to solve problems involving probability and statistics.

Applying geometric concepts

2.01 Construct congruent segments, congruent angles, bisectors of line segments and bisectors of angles.

2.02 Define and identify interior, exterior, complementary, and supplementary angles and pairs of lines including skew lines.

2.03 Define and identify alternate interior, alternate exterior, corresponding and vertical angles.

2.04 Identify and distinguish among similar, congruent and symmetric figures; name corresponding parts.

2.05 Locate, give the coordinates of, and graph plane figures which are the results of translations or reflections in the first quadrant.

2.06 Investigate and determine the relationship between the diameter and circumference of a circle and the value of pi; calculate the circumference of a circle.

2.11 Convert measures of length, area, capacity, weight and time expressed in a given unit to other units in the same measurement system.

2.07 Identify the relationship between areas of triangles and rectangles with the same base and height.

2.08 Use models to develop formulas for finding areas of triangles, parallelograms and circles.

2.09 Calculate areas of triangles, parallelograms and circles.

2.10 Model the concept of volume for rectangular solids as the product of the area of the base and the height.

Algebraic thinking

3.01 Describe, extend and write rules for a variety of patterns.

3.02 Generate a set of ordered pairs using a given rule which is stated verbally or algebraically.

3.03 Given a group of ordered pairs, identify, either verbally or algebraically, the rule used to generate them and record results.

3.04 Use variables to describe numerical expressions and relationships.

3.05 Use graphs and tables to represent ordered pairs; describe the relationship; recognize both linear and nonlinear relationships.

Using data/probability

4.01 Create and evaluate graphic representations of data.

4.02 Analyze data using spreadsheets.

4.03 Locate points in all quadrants of the coordinate plane using ordered pairs.

4.04 Use measures of central tendency to compare two sets of data.

4.05 Construct convincing arguments based on analysis of data and interpretation of graphs.

4.06 Design an experiment to test a theoretical probability; record and explain results.

4.07 Make predictions based on the probabilities of simple events.

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